

### § 63.31

within 7 days after the date it terminates.

(g) *Renewal.* The certificate holder may have the certificate renewed by complying with the requirements of paragraph (b) of this section at the time of application for renewal.

(Secs. 313(a), 601, and 602, Federal Aviation Act of 1958; as amended (49 U.S.C. 1354(a), 1421, and 1422); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)))

[Doc. No. 19300, 45 FR 5672, Jan. 24, 1980]

## Subpart B—Flight Engineers

AUTHORITY: Secs. 313(a), 601, and 602, Federal Aviation Act of 1958; 49 U.S.C. 1354, 1421, 1422.

SOURCE: Docket No. 6458, 30 FR 14559, Nov. 23, 1965, unless otherwise noted.

### § 63.31 Eligibility requirements; general.

To be eligible for a flight engineer certificate, a person must—

- (a) Be at least 21 years of age;
- (b) Be able to read, speak, and understand the English language, or have an appropriate limitation placed on his flight engineer certificate;
- (c) Hold at least a second-class medical certificate issued under part 67 of this chapter within the 12 months before the date he applies, or other evidence of medical qualification accepted for the issue of a flight engineer certificate under § 63.42; and
- (d) Comply with the requirements of this subpart that apply to the rating he seeks.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655)

[Doc. No. 6458, 30 FR 14559, Nov. 23, 1965, as amended by Amdt. 63-9, 33 FR 18614, Dec. 17, 1968]

### § 63.33 Aircraft ratings.

(a) The aircraft class ratings to be placed on flight engineer certificates are—

- (1) Reciprocating engine powered;
  - (2) Turbopropeller powered; and
  - (3) Turbojet powered.
- (b) To be eligible for an additional aircraft class rating after his flight engineer certificate with a class rating is issued to him, an applicant must pass the written test that is appropriate to

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the class of airplane for which an additional rating is sought, and—

(1) Pass the flight test for that class of aircraft; or

(2) Satisfactorily complete an approved flight engineer training program that is appropriate to the additional class rating sought.

### § 63.35 Knowledge requirements.

(a) An applicant for a flight engineer certificate must pass a written test on the following:

(1) The regulations of this chapter that apply to the duties of a flight engineer.

(2) The theory of flight and aerodynamics.

(3) Basic meteorology with respect to engine operations.

(4) Center of gravity computations.

(b) An applicant for the original or additional issue of a flight engineer class rating must pass a written test for that airplane class on the following:

- (1) Preflight.
- (2) Airplane equipment.
- (3) Airplane systems.
- (4) Airplane loading.
- (5) Airplane procedures and engine operations with respect to limitations.
- (6) Normal operating procedures.
- (7) Emergency procedures.
- (8) Mathematical computation of engine operations and fuel consumption.

(c) Before taking the written tests prescribed in paragraphs (a) and (b) of this section, an applicant for a flight engineer certificate must present satisfactory evidence of having completed one of the experience requirements of § 63.37. However, he may take the written tests before acquiring the flight training required by § 63.37.

(d) An applicant for a flight engineer certificate or rating must have passed the written tests required by paragraphs (a) and (b) of this section since the beginning of the 24th calendar month before the month in which the flight is taken. However, this limitation does not apply to an applicant for a flight engineer certificate or rating if—

(1) The applicant—

(i) Within the period ending 24 calendar months after the month in which the applicant passed the written test, is employed as a flight crewmember or

mechanic by a U.S. air carrier or commercial operator operating either under part 121 or as a commuter air carrier under part 135 (as defined in part 298 of this title) and is employed by such a certificate holder at the time of the flight test;

(ii) If employed as a flight crew-member, has completed initial training, and, if appropriate, transition or upgrade training; and

(iii) Meets the recurrent training requirements of the applicable part or, for mechanics, meets the recency of experience requirements of part 65; or

(2) Within the period ending 24 calendar months after the month in which the applicant passed the written test, the applicant participated in a flight engineer or maintenance training program of a U.S. scheduled military air transportation service and is currently participating in that program.

(e) An air carrier or commercial operator with an approved training program under part 121 of this chapter may, when authorized by the Administrator, provide as part of that program a written test that it may administer to satisfy the test required for an additional rating under paragraph (b) of this section.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655; secs. 313(a), 601 through 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421 through 1425); sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)); and 14 CFR 11.49)

[Doc. No. 1179, 27 FR 7969, Aug. 10, 1962, as amended by Amdt. 63-17, 40 FR 32830, Aug. 5, 1975; Doc. 63-21, 47 FR 13316, Mar. 29, 1982]

#### **§ 63.37 Aeronautical experience requirements.**

(a) Except as otherwise specified therein, the flight time used to satisfy the aeronautical experience requirements of paragraph (b) of this section must have been obtained on an airplane—

(1) On which a flight engineer is required by this chapter; or

(2) That has at least three engines that are rated at least 800 horsepower each or the equivalent in turbine-powered engines.

(b) An applicant for a flight engineer certificate with a class rating must present, for the class rating sought,

satisfactory evidence of one of the following:

(1) At least 3 years of diversified practical experience in aircraft and aircraft engine maintenance (of which at least 1 year was in maintaining multi-engine aircraft with engines rated at least 800 horsepower each, or the equivalent in turbine engine powered aircraft), and at least 5 hours of flight training in the duties of a flight engineer.

(2) Graduation from at least a 2-year specialized aeronautical training course in maintaining aircraft and aircraft engines (of which at least 6 calendar months were in maintaining multiengine aircraft with engines rated at least 800 horsepower each or the equivalent in turbine engine powered aircraft), and at least 5 hours of flight training in the duties of a flight engineer.

(3) A degree in aeronautical, electrical, or mechanical engineering from a recognized college, university, or engineering school; at least 6 calendar months of practical experience in maintaining multiengine aircraft with engines rated at least 800 horsepower each, or the equivalent in turbine engine powered aircraft; and at least 5 hours of flight training in the duties of a flight engineer.

(4) At least a commercial pilot certificate with an instrument rating and at least 5 hours of flight training in the duties of a flight engineer.

(5) At least 200 hours of flight time in a transport category airplane (or in a military airplane with at least two engines and at least equivalent weight and horsepower) as pilot in command or second in command performing the functions of a pilot in command under the supervision of a pilot in command.

(6) At least 100 hours of flight time as a flight engineer.

(7) Within the 90-day period before he applies, successful completion of an approved flight engineer ground and flight course of instruction as provided in appendix C of this part.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655)

[Doc. No. 6458, 30 FR 14559, Nov. 23, 1965, as amended by Amdt. 63-5, 31 FR 9047, July 1, 1966; Amdt. 63-17, 40 FR 32830, Aug. 5, 1975]